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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,969	04/20/2005	Catherine Lamy	FR 020110	5802

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EXAMINER

RIZK, SAMIR WADIE

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/531,969

Applicant(s)

LAMY, CATHERINE

Examiner

Sam Rizk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 1005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/20/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTIONS

- Claims 1-2 have been submitted for examination
- Claims 1-2 have been rejected

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1-2 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-3 of copending Application No. 10548250. Although the conflicting claims are not identical they are not patentably distinct from each other because the claims of the claims of application 10/548,250 anticipate the instant application.

"A later patent claim is not patentably distinct from an earlier patent claim if the Later claim is obvious over, or anticipated by, the earlier claim. In re

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Longi, 759 F.2d at 896,225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior ad patents), In re Bern, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (Affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). " ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING ENBANC (DECIDED: May 30, 2001).

Claim	Present application	Claim	Copending Application no. 10/548,250
1	1. A method of building a variable length error code, said method comprising the steps of : (1) initializing the needed parameters : minimum and maximum length of codewords L1 and Lmax respectively, free distance dfree between each	2	<u>A method of building a variable length error code, said method comprising the steps of :</u> <u>(1) initializing (phase 0) the needed parameters :</u> <u>minimum and maximum length of codewords L1 and Lmax respectively, free distance dfree between</u>

<p>codeword (said distance d_{free} being for a VLEC code C the minimum Hamming distance in the set of all arbitrary extended codes), required number of codewords S ;</p> <p>(2) generating (step 11) a fixed length code C of length L1 and minimal distance b_{min}, with $b_{min} = \min (b_k ; k = 1, 2, \dots, R)$, b_k = the distance associated to the codeword length L_k of code C and defined as the minimum Hamming distance between all codewords of C with length L_k, and R = the number of different codeword lengths in C, said generating step 11 creating</p>	<p><u>each codeword (said distance d_{free} being for a VLEC code C the minimum Hamming distance in the set of all arbitrary extended codes), required number of codewords S ;</u></p> <p><u>(2) generating (phase 1) a fixed length code C of length L1 and minimal distance b_{min}, with $b_{min} = \min (b_k ; k = 1, 2, \dots, R)$, b_k = the distance associated to the codeword length L_k of code C and defined as the minimum Hamming distance between all codewords of C with length L_k, and R = the number of different codeword lengths in C, said generating step creating a</u></p>
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<p>a set W of n-bit long words distant of d;</p> <p>(3) listing and storing (step 21) in the set W all the possible L1 - tuples at the distance of dmin from the codewords of C (said distance dmin for a VLEC code C being the minimum value of all the diverging distances between all possible couples of different-length codewords of C), and, if said set W is not empty, <u>doubling the number of words in W by affixing at the end of all words one extra bit, said storing step therefore</u> replacing the set W by a new one having twice more words than the previous one</p>	<p><u>set W of n-bit long words distant of d;</u></p> <p><u>(3) storing (phase 2) in the set W all the possible L1 - tuples distant of dmin from the codewords of C (said distance dmin for a VLEC code C being the minimum value of all the diverging distances between all possible couples of different-length codewords of C), and, if said set W is not empty, affixing at the end of all words one extra bit, said storing step replacing the set W by a new one having twice more words than the previous one and the length of each one of these words being $L_t + 1$;</u></p>
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	<p>and the length of each one of these words being $L1+1$;</p> <p>(4) deleting (step 31) all the words of the set W that do not satisfy the cmin distance with all codewords of C, said distance cmin being the minimum converging distance of the code C ;</p> <p>(5) in the case where no word is found or the maximum number of bits is reached, reducing (step 41) the constraint of distance for finding more words ;</p> <p>(6) controlling that all words of the set W are distant of bmin, the found words being then added to the code C (step 34) ;</p>		<p><u>(4) deleting (phase 3) all the words of the set W that do not satisfy the cmin distance with a11 codewords of C, said distance cmin being the minimum converging distance of the code C ;</u></p> <p><u>(5) in the case where no word is found or the maximum number of bits is reached, reducing (phase A1) the constraint of distance for finding more words ;</u></p> <p><u>(6) controlling that all words of the set W are distant of bmin, the found words being then added to the code C ;</u></p>
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<p>(7) if (step 35) the required number of codewords has not been reached repeating the steps (1) to (6) (i.e. the steps 21 to 35) until the method finds either no further possibility to continue or the required number of codewords;</p> <p>(8) if the number of codewords of C is greater than S, calculating (phase A4), on the basis of the structure of the VLEC code, the average length AL obtained by weighting each codeword length with the probability of the source, said AL becoming the ALmin, if it is lower than ALmin, with ALmin = the minimum value of AL,</p>	<p><u>(7) if the required number of codewords has not been reached, repeating the steps (1) to (6) until the method finds either no further possibility to continue or the required number of codewords;</u></p> <p><u>(8) if the number of codewords of C is greater than S, calculating, on the basis of the structure of the VLEC code, the average length AL obtained by weighting each codeword length with the probability of the source, said AL becoming the ALmin if it is lower than ALmin , with ALmin = the minimum value of AL, and the</u></p>
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	and the corresponding code structure being kept in memory ; said building method being moreover such that at most one bit is added at the end of each word of the set W.		<u>corresponding code structure being kept in memory ; said building method being such that at most one bit is added at the end of each word of the set W,</u> and the deletion is moreover realized not only in the last obtained group but also in the group of a given length value in order to go back very quickly to smaller lengths.
2	A device for carrying out a variable length error code building method according to claim 1.	3	<u>A device for carrying out a variable length error code building method according to any ones of claims 1 and 2.</u>

The Examiner note that claims 2-3 citation (See above comparison table) of the copending Application No. 10/548,250 and this application is almost the same.

The copending application teaches every limitation in claims 1-2 of the instant application under examination (Note the underlined citation in the copending application).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Objections

2. Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.
3. Claim 1, in page 12, line 2 should read:
“..a variable length error code (VLEC),...”
Appropriate correction is required.
Appropriate correction is required.
4. Claim 1, in page 12, line 9 should read:
“..and required number of codewords S..”
Appropriate correction is required.
Appropriate correction is required.
5. Claim 1, in page 12, line 12 should read:
“..said generating (step 11) ~~creating~~ creates a set W..”
Appropriate correction is required.
Appropriate correction is required.

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6. Claim 1, in page 12, line 29 refers to "(i.e. **steps 21 to 35**)".
There are no corresponding reference signs (25-30) in the drawings.
Appropriate correction is required.
7. Claim 1, in page 12, line 30 should read:
"..of codewords **has been reached**"
Appropriate correction is required.
8. Claim 1, in page 13, line 3 should read:
"..method being ~~moreover~~ such that at.."
9. In regard to claim 1, the citation "**the minimum hamming distance**" in page 12, line 6 has no patentable weight. This is not part of the claim limitations.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

10. Claim 1, recites the limitation "**the possible L1-tuples**" in page 12, line 14. There is insufficient antecedent basis for this limitation in the claim.
11. Claim 1, recites the limitation "**the diverging distances**" in page 12, line 16. There is insufficient antecedent basis for this limitation in the claim.
12. Claim 1, recites the limitation "**the constraint of distance**" in page 12, line 25. There is insufficient antecedent basis for this limitation in the claim.
13. Claim 1, recites the limitation "**the found words**" in page 12, line 26. There is insufficient antecedent basis for this limitation in the claim.

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14. Claim 1, recites the limitation "**the probability of the source**" in page 12, line 33. There is insufficient antecedent basis for this limitation in the claim.

Drawings

15. Figures (1-9) and (12-13) should be designated by a legend such as -- Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
16. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "**31**" has been used to designate both "KEEP IN WORDS Cmin" in FIG. 2 and " MAX BITS EXCEEDED?= NO" in FIG. 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either

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"Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

The objection to the drawings will not be held in abeyance.

17. Reference character (46) is objected to for the same reasons as per reference character (31).

The objection to the drawings will not be held in abeyance.

18. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "55" and "55" have both been used to designate "the same input" to the flow chart in FIG. 2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

19. Claims 1 and 2 are rejected under 35 U.S.C. 102(a) as being anticipated by the Applicant Admitted Prior Art (Hereinafter (AAPA)).

20. In regard to claim 1, AAPA teaches;

- A method of building a variable length error code, said method comprising the steps of :
- initializing the needed parameters : minimum and maximum length of codewords $L1$ and $Lmax$ respectively, free distance $dfree$ between each codeword (said distance $dfree$ being for a VLEC code C the minimum Hamming distance in the set of all arbitrary extended codes), required number of codewords S ;

(Note: page 6, lines (18-27) in AAPA)

- (2) generating (step 11) a fixed length code C of length $L1$ and minimal distance $bmin$, with $bmin = \min (bk ; k = 1, 2, \dots, R)$, b_k = the distance associated to the codeword length L_k of code C and defined as the minimum Hamming distance between all codewords of C with length L_k , and R = the number of different

codeword lengths in C, said generating step 11 creating a set W of n-bit long words distant of d;

(Note: page 6, lines (27-35) in AAPA)

(3) listing and storing (step 21) in the set W all the possible L1 - tuples at the distance of dmin from the codewords of C (said distance dmin for a VLEC code C being the minimum value of all the diverging distances between all possible couples of different-length codewords of C), and, if said set W is not empty, doubling the number of words in W by affixing at the end of all words one extra bit, said storing step therefore replacing the set W by a new one having twice more words than the previous one and the length of each one of these words being L1+1;

(Note: page 7, lines (8-18) in AAPA)

- (4) deleting (step 31) all the words of the set W that do not satisfy the cmin distance with all codewords of C, said distance cmin being the minimum converging distance of the code C ;
- (5) in the case where no word is found or the maximum number of bits is reached, reducing (step 41) the constraint of distance for finding more words ;

(Note: page 7, lines (19-30) in AAPA)

- (6) controlling that all words of the set W are distant of bmin, the found words being then added to the code C (step 34) ;

(Note: FIG.2, reference sign (34) in AAPA)

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- (7) if (step 35) the required number of codewords has not been reached repeating the steps (1) to (6) (i.e. the steps 21 to 35) until the method finds either no further possibility to continue or the required number of codewords;

(Note: Page 7, lines (20-30) in AAPA)

- (8) if the number of codewords of C is greater than S, calculating (phase A4), on the basis of the structure of the VLEC code, the average length AL obtained by weighting each codeword length with the probability of the source, said AL becoming the ALmin, if it is lower than ALmin, with ALmin= the minimum value of AL, and the corresponding code structure being kept in memory ; said building method being moreover such that at most one bit is added at the end of each word of the set W.

(Note: page 9, lines (5-15) in AAPA)

21. Claim 2 is rejected for the same reasons as per claim 1.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571) 272-8191. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819.

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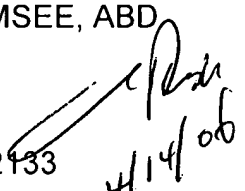
The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronics Business Center (EBC) at 866-217-9197 (toll-free)

Sam Rizk, MSEE, ABD

Examiner

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4/14/06



GUY LAMARRE
PRIMARY EXAMINER